ABSTRACT

The present invention relates to multi-ribozymes and their use to target RNA in a tissue-specific, target RNA-specific, or pathogen-specific manner for the treatment of cancers, proliferative disease, and bacterial, parasitic and viral infections. More specifically, the present invention relates to the use of virions and viral vectors to package and deliver DNA encoding the multi-ribozymes to a host. The present invention relates to the use of liposomes and lipid-DNA complexes to deliver DNA encoding ribozymes to a host. Most specifically, the invention relates to the use of target specific virions to package and deliver DNA comprising a target specific promoter and encoding a ribozyme(s) directed to the target organism nucleic acids. The present invention further relates to a novel vectors encoding a multi-ribozyme structure with enhanced 5' and/or 3' autocatalytically cleaving ribozymes. The invention further relates to nucleotides encoding a multi-ribozyme comprising one or more ribozyme cassettes which contain one or more trans-acting ribozymes and one or more autocatalytically cleaving ribozyme sequences.